

Applicant : Carl L. Sisemore
Serial No. : 10/657,486
Filed : September 8, 2003
Page : 2 of 5

Attorney Docket No.: Navy Case 84628

Amendments to the Claims:

The following listing of claims will replace all prior versions of claims in the application:

1. (Currently Amended) ~~An efficient method for structural modeling a ship's structure including equipment and ship's sections that do not form an integral portion of the ship's hull, keel and integral structure, the ship having a centerline and a center of gravity~~ the method comprising:

a) constructing a thin shell hull model of the ship having cross-sections extending along a longitudinal centerline, the cross-sections defining wet and dry regions, the hull model having a plurality of hull nodes;

b) constructing a beam model of the ship within the thin shell hull model dry region, the beam model having a principal beam that runs down extends along the centerline along the center of gravity of the ship and is connected, the beam model having a plurality of beam nodes;

connecting the principal beam to the hull model through a series of rigid or nearly substantially rigid spider type rib connections from nodes in the beam model to nodes in corresponding members of the hull model nodes;

e) adjusting the beam model to match the approximate characterize inertial mass and stiffness of the ship;

d) constructing a detailed model of a cross-section portion of the ship, the portion extending longitudinally along part of the beam and hull models, the detailed model including nodes that represent equipment and ship sections that includes those portions of the ship that form an integral part of the ship structure as defined in, the hull model and the beam model; and

e) inserting-replacing the part of the beam model with the detailed model into the beam model such that the beam model passes through the detailed model while reducing the; and removing added lump masses along the beam in the region of at the detailed model.

2. (Currently Amended) ~~The method of claim 1 wherein adjustment of adjusting the beam model to match the approximate mass and stiffness of the ship is accomplished by further comprises; adding lumped masses along the length of the beam in approximate proportion to the a mass distribution of the ship's structure and equipment, and varying the cross-sectional and/or material properties of the modeled ship until the ship and model natural frequencies of the ship are in reasonable substantial agreement.~~